

NOTES ON SOUTH AUSTRALIAN MARINE MOLLUSCA,
WITH DESCRIPTIONS OF NEW SPECIES.—PART XV.

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PLATES XV. AND XVI.

This paper is a continuation of the series from page 215 of vol. xxxv. of 1911, and embraces all the known South Australian species of *Helcioniscus*, *Patella*, *Nacella*, *Acmaea*, *Phenacolepas*, *Haliotis*, *Scissurella*, and *Schismope*. It discusses also several species which have been attributed to South Australia, but are not recognized as occurring here.

***Helcioniscus tramosericus*, Martyn.**

Patella tramoserica, Martyn, Univ. Conch., t. 16, P. (*Helcioniscus*) *tramoserica*, Martyn, Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 205.

Helcioniscus diemenensis, Philippi, Gatliff and Gabriel, Proc. Roy. Soc., Victoria, 1908, vol. xxi. (New Series), part 1, p. 282.

Gatliff and Gabriel discarded the name *P. tramoserica*, Martyn, because the type locality was North America, and no Victorian specimen was exactly like his figure; but in answer to enquiries by Mr. Gabriel, Dall has since written that Martyn's species does not occur on the coasts of America, and that it is probably Australian or New Zealand. Very likely Martyn obtained it from Australia, but by mistake gave it an American habitat.

It occurs all along the South Australian coast from the east as far towards the west as Venus Bay. At St. Francis Island it is very rare and small, up to 18 mm.; so it seems to fade out along our west coast. It was not taken at any place along the south or west coast of Western Australia, its place being taken by *Patella neglecta*.

***Helcioniscus illibratus*, Verco.**

Helcioniscus illibratus, Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 205, pl. x., figs. 6-14: *Type locality*—Spencer Gulf; Hedley, Commonwealth of Australia, Fisheries, part 1, 1911, p. 93, "100 fathoms, 40 miles south of Cape Wiles, South Australia."

Dredged in 15 to 20 fathoms off St. Francis Island, 5 dead. Taken in Western Australia, as far round as Rottnest Island.

Helcioniscus limbatus, Philippi.

Patella limbata, Philippi, *Abbild und Besch*, *Conch.*, vol. iii., p. 71; (*Helcioniscus*) Verco, *Trans. Roy. Soc., S.A.*, 1907, vol. xxxi., p. 100.

It is very common, large, and beautiful in St. Francis Island, where *H. tramosericus*, Martyn, is very rare and small. I did not take it anywhere in Western Australia. Mr. Hedley in "The Marine Fauna of Queensland," in the Australasian Association for the Advancement of Science, 1909, p. 355, does not include either of these species, nor in his Addendum, p. 809. It would seem, therefore, to be restricted to Tasmania and the southern shore of Australia.

Patella ustulata, Reeve.

Patella ustulata, Reeve, *Conch. Icon.*, 1855, vol. viii., pl. xxxi., figs. 88a, 88b; Verco, *Trans. Roy. Soc., S.A.*, vol. xxx., 1906, p. 206, and vol. xxxi., p. 99.

Taken at Venus Bay, and many at St. Francis Island, up to 32 mm. long by 26 mm. broad.

Patella aculeata, Reeve.

Patella aculeata, Reeve, Verco, *Trans. Roy. Soc., S.A.*, 1906, vol. xxx., p. 207.

Taken alive on the rocks on St. Francis Island up to 36 mm. by 26 mm., so that as far west as this the size is maintained.

Patella stellæformis, Reeve

Patella stellæformis, Reeve, *Conch. Systematica*, 1842, vol. ii., p. 15, pl. cxxxvi., fig. 3; Pilsbry, *Man. Conch.*, vol. xiii., 1891, p. 98, pl. xvii., figs. 25-27, pl. lvi., figs. 62-65; Tate and May, *Proc. Linn. Soc., N.S.W.*, 1901, vol. xxvi., part 3, p. 410.

Patella pentagona, Reeve, *Conch. Icon.*, 1854, pl. xx., figs. 48a, 48b, 48c (non Born Mus. Test. Vindobonensis).

Var. Patella chapmani, Tenison-Woods, *Proc. Roy. Soc., Tasmania*, 1876 (1875), p. 157; Verco, *Trans. Roy. Soc., S.A.*, 1906, vol. xxx., p. 208.

Var. Acmaea alba, Tenison-Woods, *Proc. Roy. Soc., Tasmania*, 1877 (1876), pp. 155, 156; Verco, *Trans. Roy. Soc., S.A.*, 1906, vol. xxx., p. 208.

I think Tate and May were right in regarding *P. chapmani*, Tenison-Woods, as conspecific with *P. stellæformis*, Reeve; but the two types are so unlike that the former may well be regarded as a good variety of the latter.

Taken at Rosetta Head, Encounter Bay (Tate), Tyringa Beach, Venus Bay, numerous and foliaceous but small, and Fowler Bay on the west coast; and on St. Francis Island up to 27 mm. by 20 mm. by 7.5 mm.

The species is rare and rather small on the South Australian coast, both the typical and the variant form, and it is only when we get west as far as St. Francis Island that we find it of fair size and in good variety. Here we take both the craggy typical shell and the extreme variant (*Acmaea alba*).

Nacella parva, Angas.

Nacella parva, Angas, Proc. Zool. Soc., 1878, p. 862, pl. liv., fig. 12; Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 208, and 1907, vol. xxxi., p. 101.

Taken on the beach at Sceales Bay, and at St. Francis Island in 6 fathoms, and in 15 to 20 fathoms, many and in good condition, with the axial line of dorsal spots of a delicate blue colour; in 35 fathoms, 2 much more depressed than those from shallower waters.

Nacella crebrestriata, Verco.

Nacella crebrestriata, Verco, Trans. Roy. Soc., S.A., 1904, vol. xxviii., p. 144, pl. xxvi., figs. 20, 21; 1906, vol. xxx., p. 208; and 1907, vol. xxxi., p. 101.

Dredged in 55 fathoms off Cape Borda, 1; taken on the beach at Venus and Sceales Bays, Port Sinclair, and St. Francis Island.

Var. **roseoradiata**, Verco.

Was taken at Guichen Bay and St. Francis Island.

Nacella stowæ, Verco.

Nacella stowæ, Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 209, pl. x., figs. 4, 5, and 1907, vol. xxxi., p. 101; Gatliff, Proc. Roy. Soc., Victoria, 1907, vol. xx. (New Series), part 1, p. 34, recorded for Victoria.

Kingston Beach, many; St. Francis Island beach, 4 good.

Acmaea alticostata, Angas.

Patella alticostata, Angas, Proc. Zool. Soc., London, 1865, p. 56, pl. ii., fig. 11; Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 209.

Taken at Venus Bay and Port Sinclair, also on St. Francis Island, abundant, typical, good condition, and in considerable variety. *Radula*, pl. xvi., figs. 3, 4.

Acmaea flammea, Quoy and Gaimard.

Patelloidea flammea, Quoy and Gaimard, Voy. "Astrolabe," Zool., 1834, vol. iii., p. 354, pl. lxxi., figs. 15, 16; Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 212.

A form like the type, which I have from the Derwent estuary, the type locality, has not been found by me in South

Australia. It is questionable whether this is really conspecific with *A. jacksoniensis*, Reeve, and *A. crucis*, Tenison-Woods.

Var. *A. jacksoniensis*, Reeve (*Patella*), Conch. Icon., vol. viii., 1855, pl. xxxix., figs. 127a and 127b.

Var. *A. gealei*, Angas (*Patella*), Proc. Zool. Soc., London, 1865, p. 57.

Var. *A. crucis*, Tenison-Woods, Proc. Roy. Soc., Tasmania, 1877 (1876), p. 52.

Taken at Venus and Streaky Bays and St. Francis Island, many and various, with or without the cross.

Acmæa calamus, Crosse and Fischer.

Patella calamus, Crosse and Fischer, Journ. de Conch., 1864, p. 348, and 1865, p. 42, pl. iii., figs. 7, 8; Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 211.

Sceales Bay, West Coast.

Var. *polyactina*, nov. var. Pl. xv., figs. 1, 2.

This is a colour variety. It has the shape of *A. calamus*, C. and F., though sometimes narrower in front, and has the fine radial sculpture. It may reach 21 mm. long by 17 mm. broad and 7 mm. high, but it has brown rays gradually widening, generally seven, the odd one in the posterior centre; but there may be six, or as many as fourteen, by secondary intercalation. They may be broken up into blotches or specks, and may tend to be united by reticulating spots and lines. The shell is sometimes polyangulate as well as rayed. They grade into typical *A. calamus*, Crosse and Fischer.

Gulf St. Vincent, Sceales Bay, Wallaroo Bay 15 fathoms.

Acmæa septiformis, Quoy and Gaimard.

Patelloida septiformis, Quoy and Gaimard, Voy. "Astrolabe," Zool., 1834, vol. iii., p. 362, pl. lxxi., figs. 43, 44; Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 215.

"Quoy gave it the name of '*septiformis*,' because in colour it resembles the *Navicella*, called by some authors '*Septaires*.'" —Lamarck, Anim. S. Vert. (2nd Edition, Deshayes, etc.), 1836, vol. vii., p. 550.

Port Elliston, many, large, flat, and eroded; Streaky Bay, many and large; St. Francis Island, few and small.

Acmæa marmorata, Tenison-Woods.

Acmæa marmorata, Tenison-Woods, Proc. Roy. Soc., Tasmania, 1876 (1875), pp. 156, 157; Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 210.

It was taken at Venus and Streaky Bays, St. Francis Island, and Point Sinclair, along the west coast of South Australia. At Streaky Bay it may be 26 mm. long and at St.

Francis Island 19 mm. I did not find any examples anywhere in Western Australia, so that it would seem to disappear somewhere between St. Francis Island and Esperance. The examples from New South Wales and Queensland sent to me are much smaller than those taken at Guichen and Streaky Bays, which may be regarded as the metropolis of the species.

***Acmæa subundulata*, Angas.**

Acmæa subundulata, Angas, Proc. Zool. Soc., London, 1865, p. 155; Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 214.

I took it alive in Streaky Bay in considerable numbers in very shallow water at low tide on wood and bottles and other shells, also at Murat Bay and on St. Francis Island, and at Esperance Bay, Western Australia.

***Phenacolepas calva*, Verco.**

Scutellina calva, Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 217, pl. viii., figs. 9, 10; Hedley and May, Records Austr. Mus., 1908, vol. vii., No. 2, p. 110, "100 fathoms, off Cape Pillar, Tasmania"; Hedley, Commonwealth of Australia, Fisheries, part 1, 1911, p. 93, "100 fathoms, 40 miles south of Cape Wiles, South Australia."

Dredged in 200 fathoms off Beachport, 3.

***Phenacolepas alboradiata*, Verco.**

Scutellina alboradiata, Verco, Trans. Roy. Soc., S.A., 1906, vol. xxx., p. 217, pl. viii., figs. 1, 2.

Gulf St. Vincent, depth unrecorded, 4; Salt Bay Creek, Edithburgh; 110 fathoms off Beachport.

***Haliotis albicans*, Quoy and Gaimard.**

Haliotis albicante, Quoy and Gaimard, Voy. "Astrolabe," 1834, Zool., vol. iii., p. 311, pl. lxxviii., figs. 1, 2. *Type locality*—"King George Sound, upon rocks at the entrance."

Haliotis albicans, Quoy and Gaimard, Lamarck, Anim. S. Vert. (2nd Edition, Deshayes, etc.), 1843, vol. ix., p. 31, sp. 16; Reeve, Conch. Icon., 1846, vol. iii., pl. x., fig. 30; Philippi, Abbild. Besch. Conch., 1846, vol. ii., p. 69, pl. iv., figs. 1a and 1b; Angas, Proc. Zool. Soc., London, 1865, p. 183, recorded for South Australia; Sowerby, Thes. Conch., 1882, vol. v., p. 30, sp. 57, pl. iii. (430), fig. 20; Weinkauff, Conch. Cab. (Ed. Küster), Band. vi., Abt. 1.B., 1883, p. 71, pl. xxi., fig. 6, pl. xxviii., fig. 2; Pilsbry, Tryon, Man. Conch., 1890, vol. xii., p. 78, pl. v., fig. 27; Tate and May, Proc. Linn. Soc., N.S.W., 1901, vol. xxvi., p. 407, Tasmania; Pritchard and Gatliff, Proc. Roy. Soc., Victoria, 1903, vol. xv. (New Series), part 2, p. 178, Victoria.

Taken all along coast of South Australia from Glenelg River to St. Francis Island.

Quoy used the specific name "*albicante*," which is grammatically correct, as *hous*, *hotis* is a neuter noun.

Lamarck and Sowerby give New Zealand as the habitat, but Hutton does not record it in his Manual of the New Zealand Mollusca, 1880, so it is probably a mistake.

In Adcock's Handlist of the Aquatic Mollusca of South Australia, 1893, p. 9, No. 366, it was given as *H. glabra*, Chemnitz, with *albicans*, Quoy and Gaimard, as its synonym.

Haliotis elegans, Koch.

Haliotis elegans, Koch, in Philippi, *Abbild. und Besch. Conch.*, 1844, vol. i., p. 119, pl. i., figs. 1, 2; Reeve, *Conch. Icon.*, 1846, pl. vii., fig. 21; Sowerby, *Thes. Conch.*, 1882, vol. v., p. 27, Sp. 44, pl. xi. (438), fig. 82, and pl. xiv. (440 bis.), fig. 119; Weinkauff, *Conch. Cab. (Ed. Küster)*, 1883, Band. vi., Abt. 1.B., p. 51, Sp. 39, pl. xx., figs. 2, 4; Pilsbry, Tryon, *Man. Conch.*, 1890, vol. xii., p. 103, pl. xiii., fig. 70; Adcock, *Handlist, etc.*, 1893, p. 9, No. 370.

Koch gives as the type locality "the western shore of New Holland," but Reeve and all who follow give "Port Adelaide," including Pilsbry, who says he has not seen the species. Koch correctly says it is "very rare" and gives its proper *habitat*. But it has not been found at Port Adelaide nor anywhere along the southern coast of Australia to my knowledge. It occurs on the western shore of Australia. Swainson, in *Proc. Roy. Soc., Tasmania*, 1855, p. 51, writes:—"I have seen but two specimens, in the collection of my friend G. W. Walker, who thinks he procured it on some island in Bass Straits." Probably, however, Mr. Walker made a mistake.

Haliotis nævosa, Martyn.

Haliotis nævosa, Martyn, *Univ. Conch.*, 1784, vol. ii., f. 63, reproduced in *Chenu's Bibliothéque Conch.*, Ser. 1, Tome ii., 1845, p. 23, No. 63, pl. xxii., fig. 1; *Cab. Jno. Hunter, Hab. Nouv. Galles du Sud*; Lamarck, *Anim. S. Vert. (2nd Edition, Deshayes, etc.)*, vol. ix., 1843, p. 34, No. 20, *hab.* New Zealand; Reeve, *Conch. Icon.*, vol. iii., pl. viii., fig. 27a, pl. ix., figs. b, c; 1865, *Angas, Proc. Zool. Soc., London*, p. 183, No. 178, *hab.* South Australia, and 1867, p. 218, No. 203, *hab.* New South Wales; Sowerby, *Thes. Conch.*, vol. v., 1882, p. 31, No. 59, pl. x. (437), fig. 73, *hab.* New Zealand, Van Diemen Land, and Philippines; Weinkauff, *Conch. Cab. (Ed. Küster)*, Band. vi., Abt. 1.B., 1883, p. 34, No. 25, pl. xiv., figs. 1-3; Watson, "Chall.," *Zool.*, 1886, vol. xv., p. 49, No. 1; 1890, Pilsbry, Tryon, *Man. Conch.*, vol. xii., p. 116, pl. xi., figs. 56, 60; Tate and May, *Proc. Linn. Soc., N.S.W.*, 1901, vol. xxvi., p. 407; Pritchard and Gatliff, *Proc. Roy. Soc., Victoria*, 1903, vol. xv. (New Series), part 2, p. 178, *hab.* Victoria.

Haliotis clathrata, Reeve, *Conch. Icon.*, fig. 72; Sowerby, *Thes. Conch.*, 1882, vol. v., pl. vi. (433), fig. 39, who says it is a synonym of *H. nævosa*, Martyn, in which Pilsbry, *loc. cit.*, con-

ours, as a juvenile, from the Philippines; Sowerby also gives *H. ruber*, Leach, and *H. sulcata*, Philippi, as synonyms.

This occurs all along the South Australian coast from the Glenelg River to St. Francis Island.

***Haliotis conicopora*, Peron.**

Haliotis conicopora, Peron, Voy. "Terr. Austr.," vol. ii., 1816, p. 80; Hedley, Proc. Linn. Soc., N.S.W., 1905, part 4, p. 520; Gatliff and Gabriel, Proc. Roy. Soc., Victoria, 1908, vol. xxi. (New Series), part 1, p. 380.

Haliotis tubifera, Lamarck, Anim. S. Vert. (2nd Edition, Deshayes, etc.), vol. ix., 1843, p. 24, No. 3, *hab.*, the seas of New Holland.

Haliotis cunninghamii, Gray, King's Survey of Australia, vol. ii., Appendix, p. 494, *teste* Gatliff and Gabriel, *loc. cit.*

Haliotis granti, Pritchard and Gatliff, Proc. Roy. Soc., Victoria, 1902, vol. xiv. (New Series), part 2, p. 183, pl. x., and 1903, vol. xv., p. 180. *Type locality*—Victoria.

Hedley, *loc. cit.*, drew attention to Peron's name and locality, Kangaroo Island, and suggested its conspecificity with *H. tubifera*, Lamarck, and *H. granti*, Pritchard and Gatliff. I think, too that this is the shell figured by Philippi in *Abbild und Beschr. Conch.*, p. 147, pl. iv. and v. (Gen. 2 and 3), under the name *H. navosa*, Martyns, and which, according to Preiss, came from Mistaken Island, in New Holland. It has both from the figure and description the pipe-like holes, which in profile are well shown.

From an examination of a considerable number of specimens it seems open to question whether this is not really a variety of *H. navosa*, Martyns, and though some individuals can be easily distributed in their typical species, others cannot be placed in one rather than the other. The validity of the spiral cords and of the axial corrugations, and the extent of projection of the spire above the dorsal surface, so as sometimes to show the basal angle and in other cases not, the consequent downward slope of the surface from the suture to the perforations, or even an upward slope or its rounded curve all vary considerably.

Taken all along the South Australian coastline, at Beachport measuring 17.5 cm. by 13.5 cm.

***Haliotis iris*, Martyn.**

Haliotis iris, Martyn, Univ. Conch., vol. ii., fig. 61; Martini and Chemnitz, Conch. Cab., 1788, vol. x., p. 317, pl. 167, figs. 1612, 1613; Wood's Index Test., 1825, p. 175, No. 13, New Zealand; Gmelin, Syst. Nat., 1789, vol. vi., p. 3691, No. 19.

H. iris, Gmelin, Lamarck, Anim. S. Vert. (2nd Edition, Deshayes, etc.), 1843, vol. ix., p. 23.

H. iris, Martyn, Deshayes, Encycl. Meth., 1830, vol. ii., p. 178; Reeve, Conch. Icon., 1846, fig. 37; Hutton, Man. New Zea-

land Moll., 1880, p. 104; *H. iris*, Gmelin, Sowerby, Thes. Conch., 1882, vol. v., p. 20, Sp. 9, pl. iii. (430), figs. 24, 25; *H. iris*, Martyn, Weinkauff, Conch. Cab., Band. vi., Abt. 1.B., p. 11, Sp. 8, pl. iv., figs. 3, 4; Pilsbry, Tryon, Man. Conch., 1890, vol. xii., p. 110, pl. xiii., figs. 65, 66.

Lamarck correctly gives "the seas of New Zealand" as the *habitat*, Reeve gives Kangaroo Island, but Swainson, in Proc. Roy. Soc., Tasmania, 1855, p. 51, wrote: "By some unaccountable mistake it is stated to inhabit Kangaroo Island. It is well known, however, in these colonies (the Australian) to be altogether peculiar to the islands of New Zealand." It has not been taken on Kangaroo Island or on the shore of South Australia.

Haliotis roei, Gray.

Haliotis roei, Gray, King's Voy., vol. ii., Appendix, 1827, p. 493, no locality given; Reeve, Conch. Icon., 1846, pl. iv., fig. 10; Sowerby, Thes. Conch., vol. v., 1882, p. 31, Sp. 60, pl. x. (437), figs. 77, 78; Weinkauff, Conch. Cab. (Ed. Küster), Band vi., Abt. 1.B., p. 37, No. 28, pl. xv., figs. 4-6; Pilsbry, Tryon, Man. Conch., 1890, vol. xii., p. 117, pl. xviii., fig. 1, pl. xlviii., figs. 11-13.

Haliotis scabricosta, Menke, Moll. Nov. Holl. Spec., 1843, p. 31, No. 172: *Type locality*—Mistaken Island; Philippi, Abbild und Beschreib. Conch., vol. i., 1844, p. 120, No. 4, pl. i., fig. 6.

Sowerby, Pilsbry, and Weinkauff give *H. hargreavesii*, Cox, as a synonym; but Hedley denies the identity, Proc. Linn. Soc., N.S.W., 1905, vol. xxx., part 4, p. 520. The two small examples of this species which the author, Dr. Cox, gave me support Hedley's contention.

It was recorded in Adcock's Handlist of Aquatic Mollusca of South Australia, 1893, p. 9, No. 367, as *H. rugosa-plicata*, Chemn. I have Tate's specimens thus named by him, but they are typical *H. roei*.

The species is rare in South Australia, but has been taken at Encounter Bay, at Aldinga (Mr. Kimber), up to 8.2 cm. long, by 6.5 cm. broad, and at St. Francis Island.

It has not been recorded from Victoria or Tasmania, but is common in Western Australia.

Sowerby gives "New Holland" as the *habitat*; Menke "Mistaken Island," in King George Sound.

Haliotis cyclobates, Peron.

Haliotis cyclobates, Peron, Voy. "Terr. Austr.," vol. ii., 1816, p. 80: *Type locality*—Kangaroo Island; Hedley, Proc. Linn. Soc., N.S.W., 1905, vol. xxx., part 4, p. 520; Gatliff and Gabriel, Proc. Roy. Soc., Victoria, 1908, vol. xxi. (New Series), part 1, p. 380.

Haliotis excavata, Lamarck, Anim. S. Vert., 1822, vol. vi., p. 215; 1843 (2nd Edition, Deshayes, etc.), vol. ix., p. 25, No. 4, "the seas of New Holland"; Deshayes, Encyc. Meth., 1830, vol. ciii., vers. vol. ii., p. 179; 1841, Delessert, Recueil, p. 33, figs.

4a, 4b, "Java seas," also figs. 6a, 6b (error in text 2a, 2b), "Java seas"; Reeve, Conch. Sys., 1842, vol. ii., p. 42, pl. cl., fig. 1; Reeve, Conch. Icon., 1846, vol. iii., pl. viii., fig. 25; H. and A. Adams, Gen. Recent Moll., vol. i., p. 443 (*Padollus*); Sowerby, Thes. Conch., 1882, vol. v., p. 30, Sp. 56, pl. iii. (430), figs. 21, 26; Weinkauff, Conch. Cab., 1883 (Ed. Küster), Band. vi., Abt. I.B., p. 39, Sp. 29, pl. xvi., figs. 1, 2; Pilsbry, Tryon, Man. Conch., 1890, vol. xii., p. 119, pl. ix., fig. 51, pl. xlix., fig. 23; Pritchard and Gatliff, Proc. Roy. Soc., Victoria, 1903, vol. xv. (New Series), part 2, p. 180, "Portsea, Port Phillip."

Dredged alive up to 15 fathoms and taken alive on the rocks at low water along the South Australian coastline in both gulfs from Yankalilla Bay to Streaky Bay, and Murat Bay in the west. I did not get it at St. Francis Island nor anywhere in Western Australia. It is recorded from Port Phillip, Victoria, but not from Tasmania. It would seem to be very localized and confined to the southern coast of Australia.

Haliotis emmæ, Gray.

Haliotis emmæ, Gray, MSS., Brit. Mus. Cat.; Reeve, Conch. Icon., 1846, vol. iii., pl. x., fig. 29; also Elements of Conch., 1860, vol. ii., pp. 12, 13, pl. xxiii., fig. 131; Sowerby, Thes. Conch., 1882, vol. v., p. 32, Sp. 68, pl. ii. (429), fig. 16, "New Zealand"; Weinkauff, Conch. Cab. (Ed. Küster), Band. vi., Abt. I.B., p. 56, Sp. 43, pl. xxii., figs. 1, 2; Pilsbry, Tryon, Man. Conch., 1890, vol. xii., p. 122, pl. xiv., fig. 75; Tate and May, Proc. Linn. Soc., N.S.W., 1901, vol. xxvi., pp. 407, 447, "Tasmania"; Pritchard and Gatliff, Proc. Roy. Soc., Victoria, 1903, vol. xv. (New Series), part 2, p. 178, "Victoria."

Padollus emmæ, Gray, H. and A. Adams, Gen. Recent Moll., 1858, vol. i., p. 443.

W. Swainson, in Proc. Roy. Soc., Tasmania, 1855, p. 48, says, "*H. tricoloratus*, Lam.; *H. pulcherrima*, Auct.; and our *H. costata*, are (in Reeve's Conch. Icon.) erroneously called *H. emmæ*," and cited as Australian species. But *H. costata*, Swainson, is given by Pilsbry as a synonym of *H. rugosoplicata*, Chem. Again, on page 51, "I see no difference between the species figured at plate x., fig. 29 (Conch. Icon., Reeve), under the singular name of *H. emmæ*, and that described by me in the Bligh Catalogue as *Haliotis carinata*. . . . Dr. Milligan has fine specimens from the Tasmanian coasts, but we do not think it also inhabits New Holland, as here stated."

It was recorded for South Australia in Adcock's Handlist of Aquatic Mollusca, 1893, p. 9, No. 372, as *H. (Padollus) carinata*, Martyn, with *emmæ*, Gray, as a synonym; but this was compiled from Tate's manuscript list, and he, in the Tasmanian Census in Proc. Linn. Soc., N.S.W., 1901, pp. 407 and 447, withdrew *H. carinata* in favour of *H. emmæ*.

Taken at the Glenelg River, Lacepede Bay, Edithburgh, St. Francis Island, and Le Hunte Bay, *i.e.*, the whole length of the South Australian coast where examined. It was not found in Western Australia.

Variations consist in the stoutness of the spiral cords, and especially in the prominence of the spiral ridge above the row of holes; this may be barely perceptible, or it may be so marked as to resemble *H. tricostalis*—in fact, it is open to question whether *H. emmæ* is not the eastern variant of the western *H. tricostalis*.

***Haliotis tricostalis*, Lamarck.**

Haliotis tricostalis, Lamarck, Anim. S. Vert., 1882, p. 218.

This species was recorded for South Australia in Adcock's Handlist of Aquatic Mollusca, South Australia, 1893, p. 9, No. 373, as *Haliotis (Padollus) rubicundus*, Montfort, with *tricostalis*, Lamarck; *canaliculata*, Schbt. and Wag.; *scalaris*, Leach, as synonyms. I have not taken it in South Australia, and do not know that it has been collected here. Some of our examples of *H. emmæ*, Gray, approach it. Swainson, in Proc. Roy. Soc., Tasmania, 1855, p. 48, speaking of Reeve's Mon. of the genus in Conch. Icon., says, "*H. tricostatus* (meaning *tricostalis*), *H. pulcherrima*, Auct., and our *Haliotis costata*, here erroneously called *H. emmæ*," evidently regarding all four as conspecific; whereas Pilsbry makes *tricostalis*, *pulcherrima*, *costata* (a synonym of *rugosoplicata*) and *emmæ* four distinct species.

***Haliotis parva*, Linne.**

Haliotis parva, Linne., Sys. Nat., vol. x., p. 780; Gmelin, Sys. Nat., 1789, Tome i., vol. vi., p. 3689, No. 7; Pilsbry, Tryon, Man. Conch., 1890, vol. xii., p. 120, pl. xiv., fig. 74; Adcock, Handlist Aquatic Moll., South Australia, 1893, p. 9, No. 374.

Adcock records it for South Australia, but no authentic specimen from our shores is known.

***Haliotis pulcherrima*, Martyn.**

Haliotis pulcherrima, Martyn, Univ. Conch., pl. lxii., Pilsbry, Tryon, Man. Conch., 1893, vol. xii., p. 124, pl. xiii., fig. 69; Adcock, Handlist Aquatic Moll., South Australia, 1893, p. 9, No. 371.

Pilsbry gives South Australia as one of its localities, and Adcock records it, but no authentic specimen from our shores is known.

***Haliotis rugoso-plicata*, Chemnitz.**

Haliotis rugoso-plicata, Chemnitz, Conch. Cab., vol. x., p. 311, figs. 1603, 1604, 1604a; Pilsbry, 1890, vol. xii., p. 110, pl. xx., figs. 12, 13.

Pilsbry gives South Australia as one of its localities, but it is unknown here. The shell listed by Adcock under this name is *H. roei*, Gray.

Scissurella australis, Hedley.

Scissurella australis, Hedley, Memoirs Austr. Mus., 1903, part 6, vol. iv., p. 329, fig. 63; Verco, Trans. Roy. Soc., S.A., vol. xxxiv., p. 115; 1911, Hedley, Commonwealth of Australia, Fisheries, part 1, p. 92, "100 fathoms, off Cape Wiles, South Australia."

Schismope atkinsoni, Tenison-Woods.

Schismope atkinsoni, Tenison-Woods, Proc. Roy. Soc., Tasmania, 1877 (1876), p. 149; Hedley, Austr. Assoc. Adv., Sci., 1909, p. 352; Verco, Trans. Roy. Soc., S.A., 1910, vol. xxxiv., p. 116; Hedley, Commonwealth of Australia, Fisheries, part 1, p. 92.

Dredged by me in 15 to 20 fathoms off St. Francis Island, 100 fathoms off Beachport, and by Hedley in 100 fathoms off Cape Wiles. Taken also at Bunbury, Western Australia. Hedley records it from Queensland.

Schismope pulchra, Petterd.

Schismope pulchra, Petterd, Jour. of Conch., 1884, vol. iv., p. 139, No. 17; Verco, Trans. Roy. Soc., S.A., 1910, vol. xxxiv., p. 117; Hedley, Commonwealth of Australia, Fisheries, part 1, p. 92.

Dredged off St. Francis Island in 15 to 20 fathoms, 5; and by Hedley in 100 fathoms off Cape Wiles. Taken also in Western Australia.
